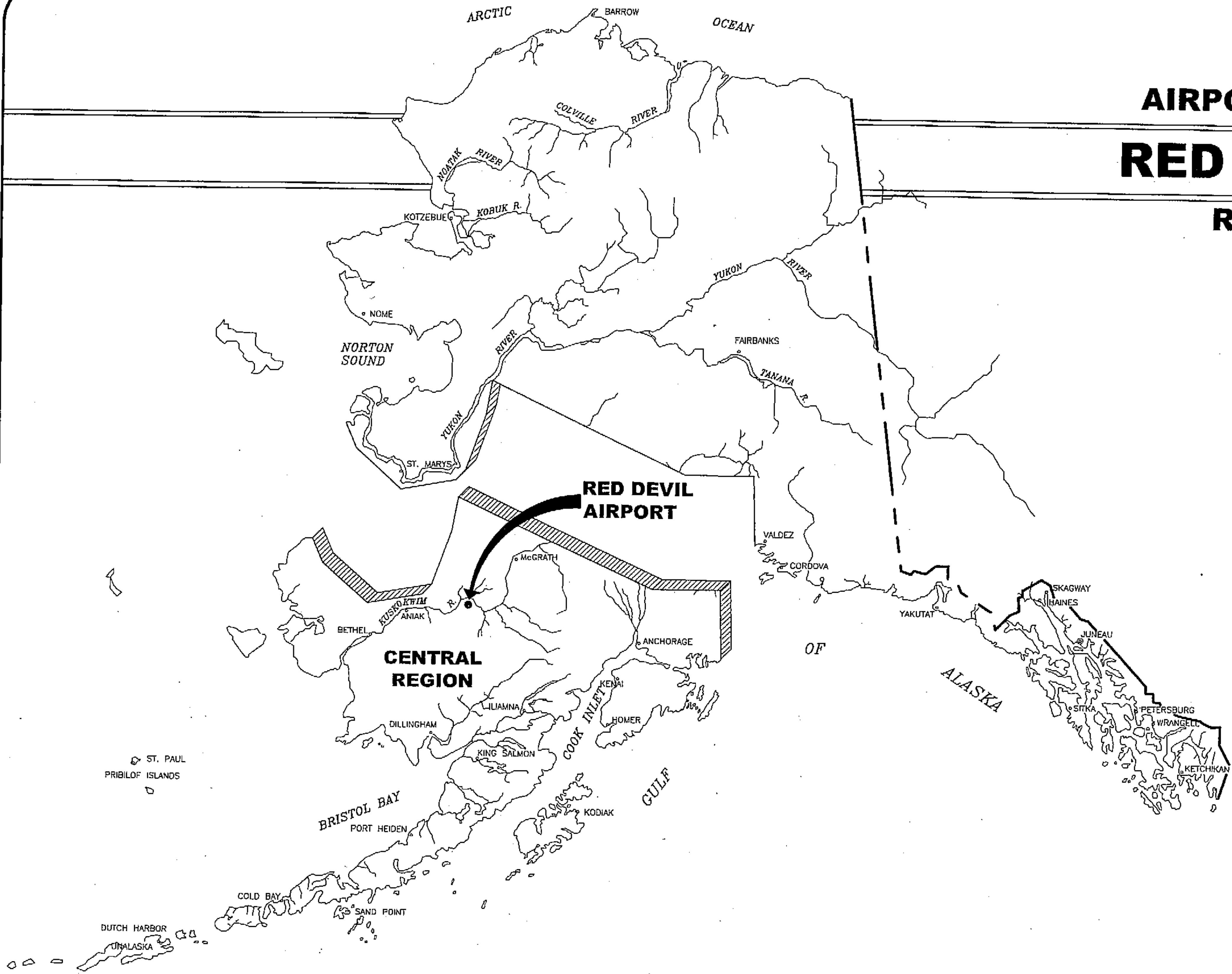


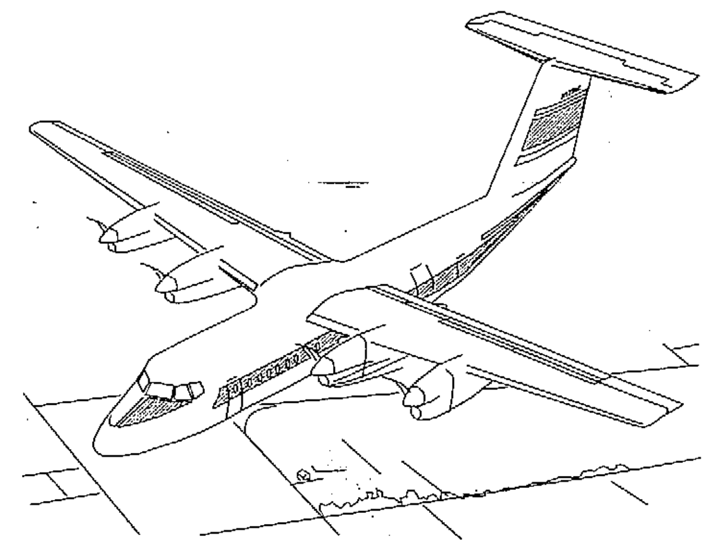
AIRPORT LAYOUT PLAN FOR

RED DEVIL AIRPORT

RED DEVIL, ALASKA

2004

DRAWING INDEX



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STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

CONCUR Gordon C. Keith **DATE** 3/18/04
GORDON C. KEITH, P.E. **DIRECTOR OF CONSTRUCTION AND OPERATIONS**

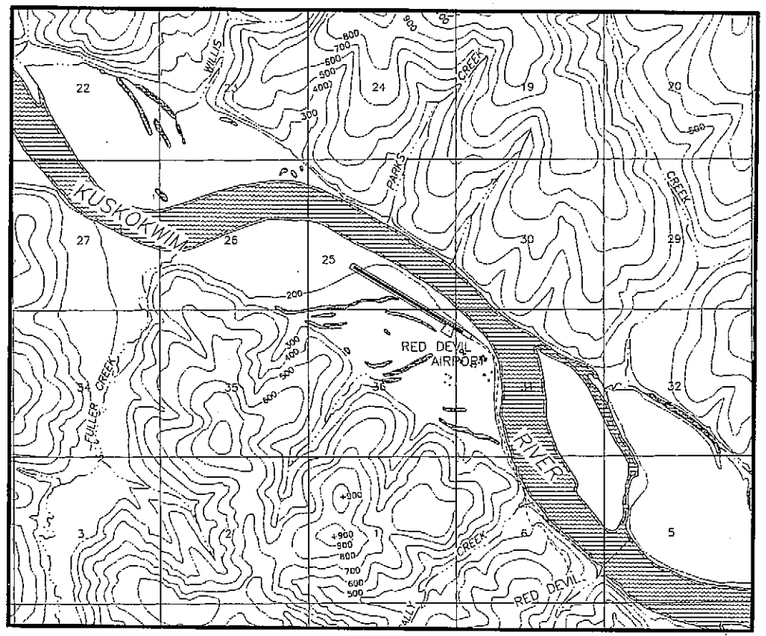
APPROVED [signature] **DATE** 3-18-04
ROBERT A. CAMPBELL, P.E. **REGIONAL PRECONSTRUCTION ENGINEER**

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL SUBJECT TO ALP APPROVAL LETTER DATED 5/3/04
By: [signature] DATE: 5/3/04
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-601

FAA AIRSPACE REVIEW NUMBER
02-AAL-158-NRA

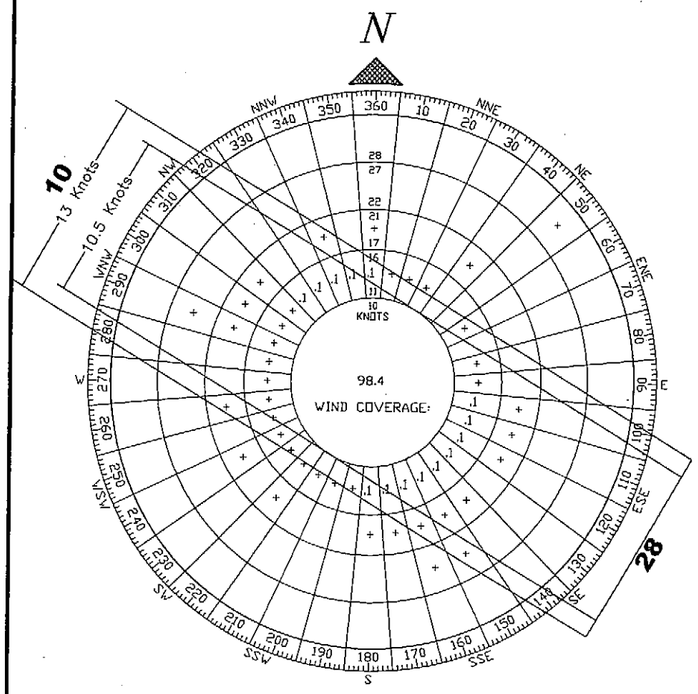
RED DEVIL AIRPORT
RED DEVIL, ALASKA
AIRPORT LAYOUT PLAN

SHEET 1 OF 8



VICINITY MAP

T 20 N, R 45 W, SEC. 25, 30
T 20 N, R 44 W, SEC. 31, 36
SEWARD MERIDIAN
U.S.G.S. SLEETMUTE (D-4), ALASKA



WIND DATA

WIND COVERAGE:	SPEED	R/W 10/28
	10.5 KNOTS	99.52%
	13 KNOTS	99.82%

SOURCE: ALASKA STATE CLIMATE CENTER, ENVIRONMENT AND RESOURCES INSTITUTE, UNIVERSITY OF ALASKA ANCHORAGE

PERIOD: 4/1994 – 11/1999

NOTE: WIND DATA IS NOT AVAILABLE FOR RED DEVIL. SLEETMUTE WIND DATA WAS USED TO CALCULATE THE WIND COVERAGE. RED DEVIL IS LOCATED 5.9 STATUTE MILES NW OF SLEETMUTE

NON-STANDARD CONDITIONS

ITEM	EXISTING	STANDARD	ULTIMATE
RUNWAY SAFETY AREA LENGTH BEYOND RUNWAY END	~200'	300'	300'
APRON SETBACK	200'	250'	300'

APPENDIX 2 OBSTRUCTION TABLE

RUNWAY	OBSTRUCTION	SURFACE ELEVATION	OBSTRUCTION ELEVATION	DISPOSITION
28	TREES	205'	246'	TO BE REMOVED

RUNWAY DATA

ITEM		RUNWAY 10/28 EXISTING	ULTIMATE
EFFECTIVE GRADE		0.02%	0.00%
% WIND COVERAGE	10.5 KNOTS	99.52%	99.52%
	13 KNOTS	99.82%	99.82%
INSTRUMENT RUNWAY		NONE	NONE
RUNWAY SURFACE		GRAVEL	GRAVEL
PAVEMENT STRENGTH		N/A	N/A
APPROACH SURFACES		20:1	20:1
VISIBILITY MINIMUM		VISUAL	1 S.M.
RUNWAY LIGHTING		NONE	MIRL
RUNWAY MARKING		NONE	NONE
RUNWAY NAVIGATION AIDS		NONE	PAPI
AIRCRAFT APPROACH CATAGORY		B	B
AIRCRAFT DESIGN GROUP		II	II
RUNWAY TYPE		UTILITY	UTILITY
RUNWAY SAFETY AREA DIMENSION		180'x5200'	150'x5100'
RUNWAY DIMENSION		75'x4800'	75'x4500'
RUNWAY OBJECT FREE AREA DIMENSION		500'x5400'	500'x5100'
RUNWAY OBSTACLE FREE ZONE DIMENSION		250'x5200'	250'x4900'
RUNWAY PROTECTION ZONE DIMENSIONS	INNER	500'	500'
	OUTER	700'	700'
	LENGTH	1000'	1000'
GEODETIC POSITIONS (N.A.D. 83)			
THRESHOLD 10	LAT.	61°47'29.19"N	61°47'28.79"N
	LONG.	157°21'43.97"W	157°21'41.96"W
THRESHOLD 28			
	LAT.	61°47'04.96"N	61°47'05.75"N
	LONG.	157°20'18.25"W	157°20'22.03"W

NOTE:
THE EXISTING RUNWAY COORDINATES, THRESHOLD LOCATIONS AND AIRPORT REFERENCE POINT ARE BASED ON A REPORT DATED AUGUST 4, 1998. THE REPORT WAS PRODUCED BY LCMF INCORPORATED FOR FAA.

TAXIWAY DATA

ITEM	TAXIWAY A EXISTING	TAXIWAY B ULTIMATE
TAXIWAY WIDTH	50'	50'
TAXIWAY SAFETY AREA WIDTH	80'	80'
TAXIWAY OBJECT FREE AREA WIDTH	131'	131'

AIRPORT DATA

ITEM		EXISTING	ULTIMATE
AIRPORT ELEVATION (M.S.L.)		205.4'	206.0'
AIRPORT REFERENCE POINT (A.R.P.)	LAT.	61°47'17.08"N	61°47'17.27"N
	LONG.	157°21'01.11"W	157°21'01.99"W
TAXIWAY LIGHTING		NONE	M.I.
RAMP LIGHTING		NONE	NONE
MEAN MAX. TEMPERATURE, HOTTEST MONTH (JULY)		65°F	
MAGNETIC DECLINATION, YEAR		18°09'E,2003 NOAA	
AIRPORT REFERENCE CODE		B-II	B-II
TERMINAL NAVIGATION AIDS		NONE	NONE
AIRPORT NAVIGATION AIDS		NONE	ROT. BEACON

LEGEND

ITEM	EXISTING	ULTIMATE
PROPERTY LINE		
BUILDING RESTRICTION LINE		
AIRPORT REFERENCE POINT (A.R.P.)		
WIND CONE AND SEGMENTED CIRCLE		
CONTOURS	100	100
ROADWAYS		
BUILDINGS		
ROTATING BEACON		
SHORELINE		
PAPI		
THRESHOLD		
TREES		
MONUMENTS		

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FILE:
DATE:

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL SUBJECT TO ALP APPROVAL LETTER DATED 5/3/04
By: _____ DATE: 5/3/04
FAA AIRPORTS DIVISION
ALASKAN REGION, AAL-601

FAA AIRSPACE REVIEW NUMBER: 02-AAL-158-NRA

BY	DATE	REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

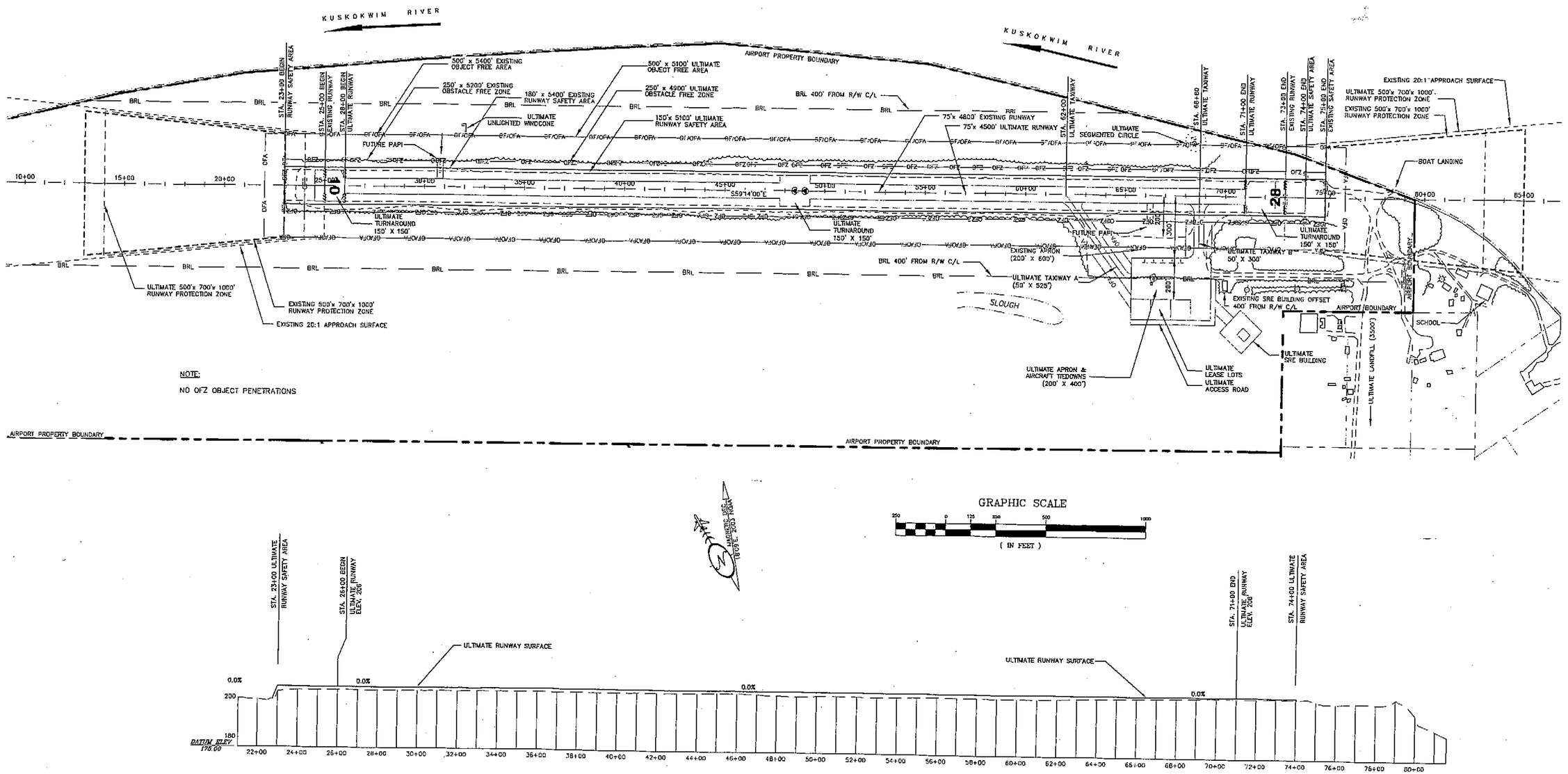
APPROVED: _____ DESIGN SECTION CHIEF
STEPHEN M. RYAN, P.E.
APPROVED: _____ PROJECT MANAGER
HARVEY M. DOUTHIT, P.E.

DATE 10/15/03
DESIGN JMR
DRAWN MGT
CHECKED TJS

RED DEVIL AIRPORT
RED DEVIL, ALASKA

AIRPORT LAYOUT PLAN
AIRPORT DATA TABLES
VICINITY MAP

SHEET 2 OF 8



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AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL SUBJECT TO ALP APPROVAL LETTER DATED 5/5/2004

By: _____ DATE: 5/26/04

FAA AIRPORTS DIVISION
ALASKAN REGION, AAL-601

FAA AIRSPACE REVIEW NUMBER: 02-AAL-158-NRA

FILE:

DATE:

BY	DATE	REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

APPROVED: _____
STEPHEN M. RYAN, P.E. — DESIGN SECTION CHIEF

APPROVED: _____
HARVEY M. DOUTHIT, P.E. — PROJECT MANAGER

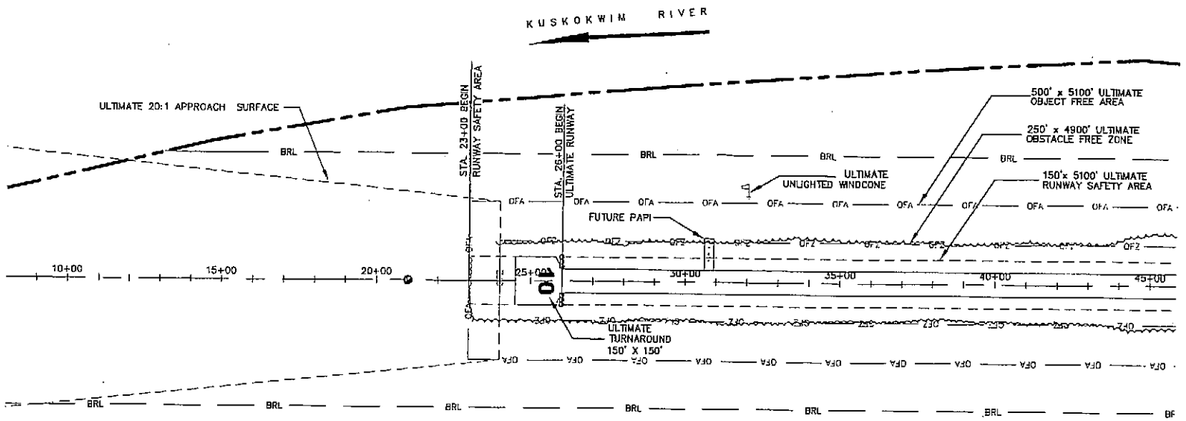
DATE 10/15/03
DESIGN JMR
DRAWN MGT
CHECKED TJS

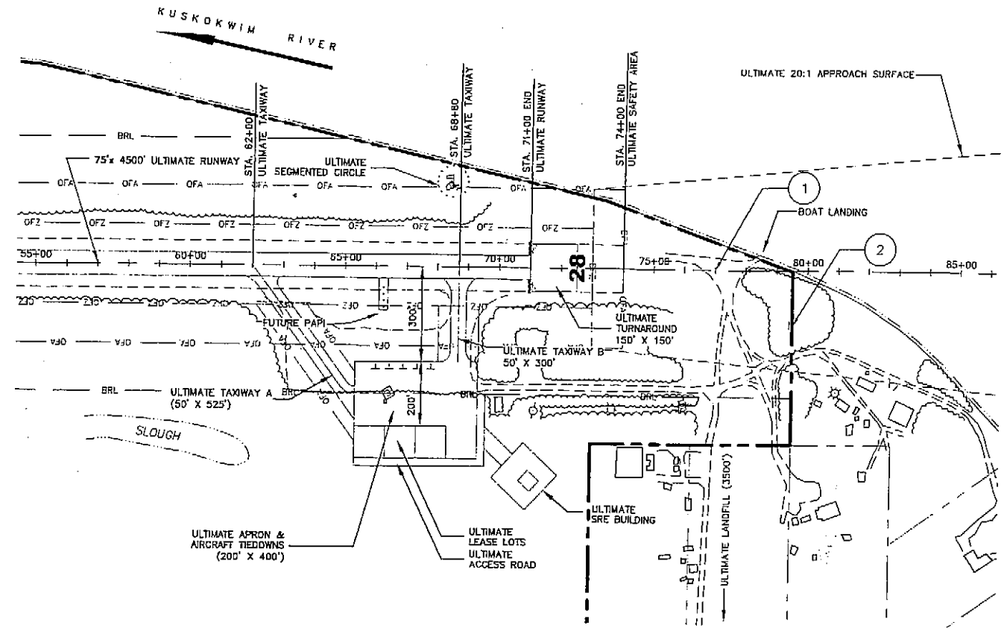
RED DEVIL AIRPORT

RED DEVIL, ALASKA

AIRPORT LAYOUT PLAN
PLAN & PROFILE

SHEET 3 OF 8





OBSTRUCTION TABLE FOR RUNWAY 10/28 APPROACHES

NUMBER	OBJECT	OBJECT ELEV.	PART 77 ELEV.	VERTICAL CLEARANCE	PENETRATION	DISPOSITION
1	EXISTING ROAD	215'	224'	9'	NONE	NONE
2	TREES	246'	236'	NONE	10'	REMOVAL

NOTE:

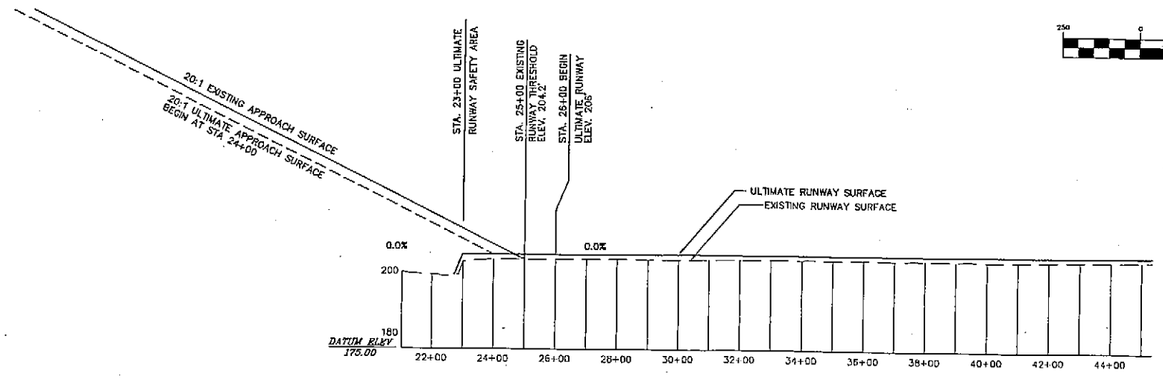
1. NO THRESHOLD SIGHTING SURFACE PENETRATIONS, PER APPENDIX 2, SECTION E OF PARAGRAPH 5.
2. OBSTRUCTION CLEARANCE SLOPE > 50:1 FOR RUNWAY 10/28.

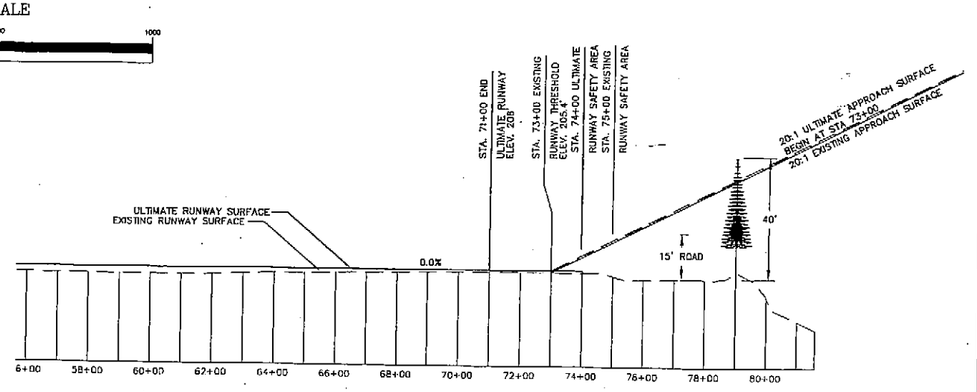
MAGNETIC DEC 18.0°E, 2003 NOAA

GRAPHIC SCALE

250 0 125 250 500 1000

(IN FEET)





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ALASKAN REGION, AAL-601

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BY	DATE	REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

APPROVED: _____ DESIGN SECTION CHIEF
STEPHEN M. RYAN, P.E.

APPROVED: _____ PROJECT MANAGER
HARVEY M. DOUTHIT, P.E.

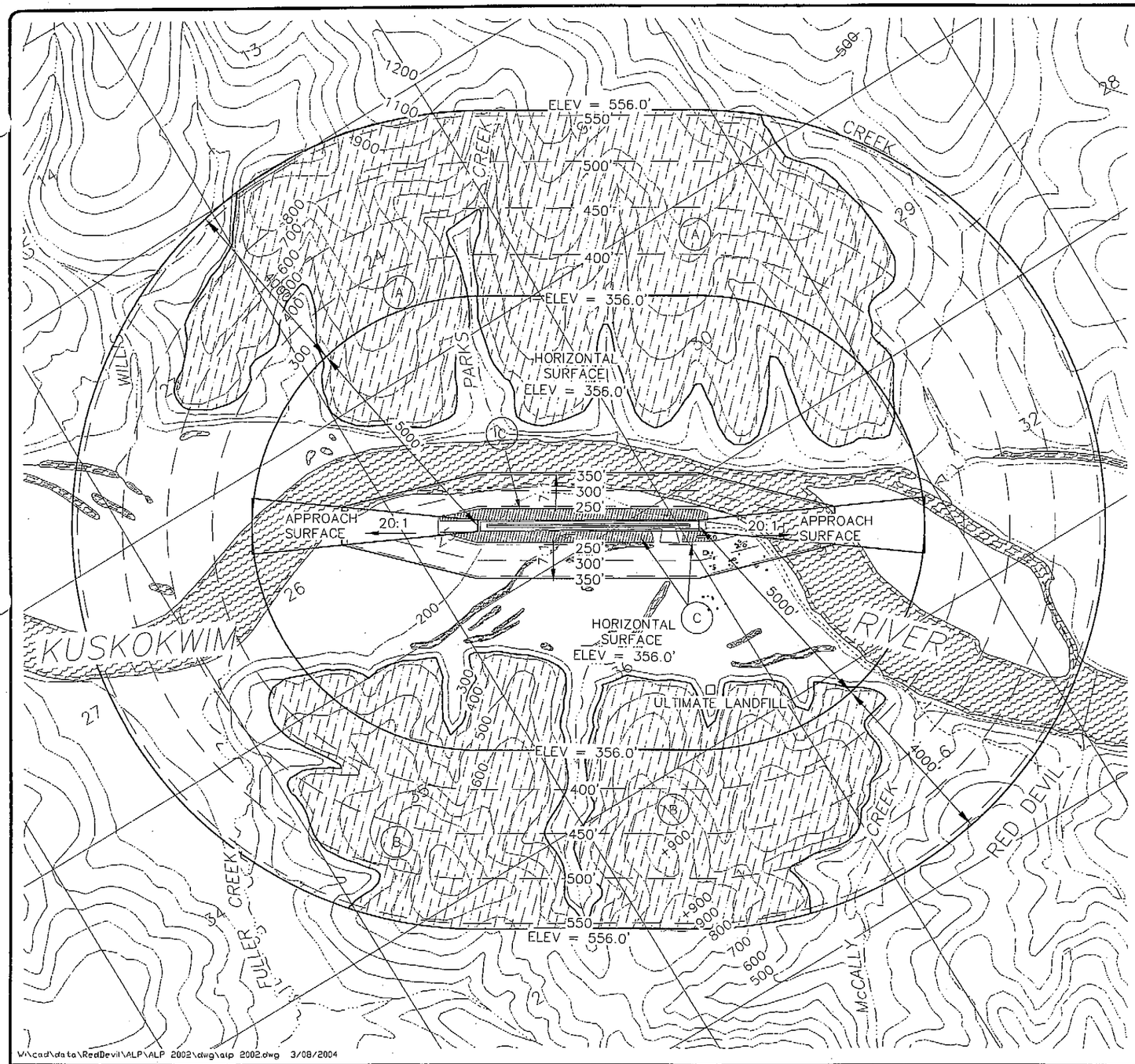
DATE 10/15/03
DESIGN JMR
DRAWN MGT
CHECKED TJS

RED DEVIL AIRPORT

RED DEVIL, ALASKA

AIRPORT LAYOUT PLAN
INNER PORTION OF THE APPROACH SURFACES
PLAN AND PROFILE

SHEET 4 OF 8



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GRAPHIC SCALE

1500 0 750 1500 3000 6000

(IN FEET)

MAGNETIC DEC 18°09'E. 2003 NOAA

F.A.R. PART 77 IMAGINARY SURFACE OBSTRUCTION TABLE							
Obstruction ID	Description	Obstruction Elevation	Surface Penetrated	Part 77 Surface Elevation	Max. Amount of Penetration	Disposition	Stage
A	TERRAIN	356'–1000'	HORIZONTAL–CONICAL	356' – 556'	500'	NONE	EXISTING
B	TERRAIN	356'–900'	HORIZONTAL–CONICAL	356' – 556'	400'	NONE	EXISTING
C	TREES	240'	TRANSITIONAL	VARIES	35'	REMOVAL	LONG–TERM

NOTES:

1. OBSTRUCTION ELEVATIONS ARE ESTIMATED FROM USGS MAPS, AERIAL PHOTOGRAPHY AND SITE VISITS.
2. ULTIMATE AIRPORT ELEVATION IS 206.0'
3. USGS QUADRANGLE MAP SLEETMUTE D–4, (1954), WERE USED FOR THE BASE MAP.

FILE:

DATE:

AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL SUBJECT TO ALP APPROVAL LETTER DATED 5/3/04

By: _____ DATE: 5/3/04

FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL–001

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BY	DATE	REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

APPROVED: _____ DESIGN SECTION CHIEF
STEPHEN M. RYAN, P.E.

APPROVED: _____ PROJECT MANAGER
HARVEY M. DOUTHIT, P.E.

DATE 10/15/03
DESIGN JMR
DRAWN MGT
CHECKED TJS

RED DEVIL AIRPORT
RED DEVIL, ALASKA

AIRPORT LAYOUT PLAN
AIRPORT AIRSPACE

SHEET 5 OF 8

RED DEVIL AIRPORT
AIRPORT LAYOUT PLAN
NARRATIVE

A. Purpose

This narrative report is included with the Airport Layout Plan (ALP) for Red Devil in accordance with the Federal Aviation Administration (FAA) Airport Design Advisory Circular (AC) 150/5300-13, Change 7, Appendix 7. The rationale for improvements to the Red Devil Airport is outlined in this narrative report.

B. Introduction

Red Devil is located on both banks of the Kuskokwim River, at the mouth of Red Devil Creek. It lies 75 air miles northeast of Aniak, 151 miles northeast of Bethel, and 250 miles west of Anchorage. It lies at approximately 61.7611° North Latitude and −157.3125° West Longitude. (Sec. 06, T019N, R044W, Seward Meridian.) Red Devil is located in the Kuskokwim Recording District. The area encompasses 24.2 sq. miles of land and 2.2 sq. miles of water. The climate in Red Devil is continental with temperatures ranging between −58 and 90.

The 2000 U.S. census documents a population of 48 persons at Red Devil.

Population History

1960	152
1970	81
1980	39
1990	53
2000	48

Red Devil village was named after the Red Devil Mine, established in 1921 by Hans Holverson when numerous mercury (quicksilver) deposits were discovered in the surrounding Kilbuck-Kuskokwim Mountains. By 1933, the mine was producing substantial quantities of mercury. Although the mine changed ownership twice over the years, it continued to operate until 1971. The mine produced some 2.7 million pounds of mercury during its operation. A post office was established in 1957 and a state school opened in 1958. Since the closure of the mercury mine in 1971, employment opportunities have been limited. Income is supplemented by subsistence activities, BLM firefighting, or work in the commercial fishing industry. The Kuskokwim River serves as a major transportation link and supply route for bulk supplies and fuel oil during the summer. In the winter the frozen river is used by snowmachines for travel to neighboring villages. A 4,750' gravel airstrip provides year-round access. It is owned and operated by the State of Alaska. Scheduled weekday service is available. Table 1 provides the existing and ultimate runway design standards.

C. Existing Conditions

The existing Airport Reference Code (ARC) is B-II. The existing runway is estimated to be 75 feet by 4,750 feet with 180 feet by 5,150 feet safety area. The runway surfacing is in poor condition. Past flooding has stripped the runway of fines and small aggregate causing significant erosion of the surface. There is currently no aircraft tie-downs or lighting system at the airport. The existing single bay snow removal equipment building (SREB) located adjacent to the apron. In 2001 the State of Alaska cleared trees along the entire length of the runway 125 feet from the centerline and 1,000 feet from the runway ends. The airport is built on the South bank of the Kuskokwim River. Floods in 1971 and again in 1991, both caused by ice jams were recorded by the Corps of Engineers. The Corps uses the 1971 flood as the highest flood record for Red Devil. The 1971 flood was 9 feet over the top of the apron and runway. The existing airport elevation is approximately 204 feet, which is 12 feet below the Corps of Engineers recommended building elevation.

D. Airport Usage and Forecasts

The Alaska Aviation System Plan (AASP) has designated this airport as a Community Class Airport, which is defined as the primary access to a small rural community of at least 25 permanent year-round residents without reliable alternate year-round access.

Since there is no tower at the Red Devil Airport, estimates of aircraft are based on the fleet of current users and current schedules and the Airport Master Record (FAA Form 5010).
The FAA Form 5010 reports the following data for annual operations:

Air Taxi	1,000
GA Local	500
GA Itinerant	1,500
Total	3,000

A survey conducted by the current operators report the following data for annual operations:

Air Taxi and Charters 1,600

The FAA reports 288 enplanements at Red Devil for 2002.

FAA categorizes five types of operations: air taxi, commuter, general aviation (local or itinerant), air carrier and military. No air taxis are based at Red Devil; the community is served from air taxis based in Anchorage, Aniak and McGrath. Locally based operators are not anticipated in the near future. There is one general aviation aircraft based at Red Devil; the number of based general aviation aircraft is not expected to exceed the proposed aircraft parking area in the long-term development plan. No air carriers or military aircraft currently use or are expected to use Red Devil in the planning period. Red Devil serves as a hub for fire fighters and supplies given its runway length and location. The airport is used on average every six years depending on the fire season and the lands being impacted.

The current aircraft that serve Red Devil are design category A-I aircraft (Cessna 185, 206, 207, DHC-2 Beaver), design category A-II (Cessna 208, Casa-212-200 Aviocar, DHC-6 Twin Otter), design category B-I (Piper Navajo) and occasional use by design category A-III (DC-3), design category B-III (DC-6) and design category C-IV (L-100) aircraft.

No future growth is projected based on population forecasts, forecasts of the current activity levels along with written and phone surveys of the carriers and the community. These parameters were considered to be a better predictor of future operations with future aircraft type.

E. Stage Development

Development of the Red Devil Airport will be accomplished in phases of near-term (0-5 years), mid-term (6-10 years) and long-term (11-20 years). The primary objectives of current airport development are upgrading the airport to design category B-II standards, rehabilitate the airport surfacing and raise the apron.

Near-Term (0-5 years)

Near-Term development at Red Devil Airport includes construction of an elevated pad for a new heated double bay Snow Removal Equipment Building (SREB). It is estimated this development will cost approximately $1,000,000 in 2002 dollars.

Mid-Term (6-10 years)

There is no mid-term development plan for Red Devil Airport.

Long-Term Development (11-20 years)

Long-Term development will bring the existing airport to current B-II standards. These plans include shortening the runway to 4,500 feet, rehabilitation of the existing embankment with fill as necessary, placement of 9-inches of new crushed aggregate surface course, installation of PAPI's and medium intensity runway lights. The taxiways geometrics will be modified to accommodate the changes. The apron will be relocated and raised to allow for aircraft tie-downs and three lease lots. The long term development would reconstruct the runway to 75' x 4,500' and provide full safety areas. The cost estimate ranges from $2.3M to $7.7M depending on the level of flood mitigations elected. There are three options available for the ultimate runway elevation. Before any option is selected a hydrological study needs to be conducted to determine which is the ideal option for Red Devil. Trees will be cleared 375 feet off both sides of the runway centerline along the entire length of the runway and trees located 800 feet off the end of runway 28 will be cleared.

F. Design Rationale

1. Airport Reference Code (ARC)

The existing Airport Reference Code is B-II. There are design category A-I, A-II, and B-I aircraft operating on a regular basis at this facility and occasional use by B-III and C-IV aircraft. The most demanding aircraft to use the airport on a regular basis is the Piper Navajo. The Piper Navajo, a design group B-I aircraft has an approach speed of 100 knots, a wingspan of 40.7 feet, and a minimum take off weight of 6,200 lbs. The justification for maintaining a design category B-II ARC is that Red Devil serves as a base of operations for fire fighting in the surrounding area.

2. Wind Coverage

Wind data is not available for Red Devil, but several years of wind data collected at Sleetmute were used to perform wind coverage analysis. Red Devil is located 5.9 miles northwest of Sleetmute. Local information indicates wind conditions at the two communities are similar. The existing runway alignment azimuth 300.76 provides 99.82% coverage for 13-knot crosswind and 99.52% coverage for 10.5-knot crosswind component.

The existing runway provides greater than 95% wind coverage, a crosswind runway would not likely be considered as necessary.

3. Runway

The existing runway length of 4,750 feet is substantially longer than the standard 3,300 feet community class airport. The ultimate runway length will be reduced to 4,500 feet as recommended by the area transportation plan. It is not anticipated that reducing the runway length will have any adverse effects to current operations, but it will reduce the cost of maintenance and operations. The existing runway end safety area widths of 75 and 180 feet, respectfully, will remain. The ultimate safety area width may be reduced in the future to 150 feet if warranted. The existing safety area length of 200 feet did not meet the current B-II standard of 300 feet beyond the end of the runway thresholds. Turnarounds of 150 feet by 150 feet will be constructed on the ends of the runway and at the center of the runway to reduce damage caused by turning aircraft.

The Yukon-Kuskokwim Delta Transportation Plan recommends that the Red Devil airport runway dimensions be modified to 4,500 feet by 100 feet. The current plan will not increase the existing runway width to accommodate the occasional use by the larger aircraft.

4. Taxiways

There are two existing taxiways that exit runway 10/28. They will be rehabilitated and realigned to accomodate group II aircraft.

5. Apron

The existing apron dimensions are 200 feet by 600 feet and setback 200 feet from the runway centerline. The existing Snow Removal Equipment Building (SREB) will remain where it is. The ultimate apron will be 200 feet by 400 feet and setback 300 feet from the runway centerline. It will include a 100 feet by 415 feet aviation support area developed contiguous to the apron. The aviation support area is large enough to accomodate three lease lots 100 feet by 100 feet, and an additional maintenance and operations lot 115 feet by 115 feet. A double bay Snow Removal Equipment Building (SREB) is proposed to be located on the maintenance and operations lot. The SREB will be constructed at an elevation of 215.8 feet. The apron elevation will be modified with any future airport projects. Aircraft tie-downs will be constructed on the apron for based aircraft and itinerant aircraft.

6. Local Roads

Access to the new apron, lease lots and snow removal equipment buildings will be from the reconditioned existing access road and a new 450' access road. The road off the end of Runway 28 currently penetrates the existing OFA, but will not be a factor with the ultimate runway layout.

G. Appendix 2 Obstructions

This Runway may Support Instrument approach procedures in the future.

H. Property Status

The existing Red Devil Airport is operated by the Department of Transportation and Public Facilities (DOT & PF) and is located on approximately 310 acres of land. The existing runway protection zone extends beyond the airport property boundary over Lot 1 A & B, which is owned by the State of Alaska. A property plan has been included as part of this ALP.

I. Landfill

There is no permitted landfill at the community of Red Devil. The residents use burn barrels, other solid waste is either stored on personal property or barged from the community to Aniak. Plans to develop a permitted landfill for Red Devil are currently underway. The Department of Community and Economic Development (DCED) have indicated a preliminary landfill location a few miles down stream. This location is not anticipated to have any adverse affects to airport operations.

J. Community Involvement

The residents of Red Devil have been informed by the Alaska Department of Transportation and Public Facilities (DOT & PF) of the proposed development contained in this ALP. Letters from interested parties regarding the Red Devil ALP are on file at DOT, Central Region offices. A public meeting was held in Red Devil with airport users and local residents on April 4, 2002 to address concerns related to airport improvements.

K. Non-Standard Conditions

The Red Devil long-term development is currently designed below the Corps of Engineers recommended elevation. If future analysis selects a non-compliance alternative than FAA's concurrence to rehabilitate the Red Devil airport below the recommended elevation will be requested.

L. Part 77

Trees penetrate the Part 77 transitional surface on both sides of the runway. The tree heights were estimated during site visit and from talking with local M&O contractor. Based on this assumption, the trees will penetrate 35 feet into the part 77 surface. The area to be cleared of trees will be 800 feet wide and will extend along the entire length of the runway. No additional property is necessary to clear all of the obstructions.

There are terrain obstructions located on both sides of the airport. The terrain penetrates the horizontal and conical surfaces to a maximum height of 500 feet. The obstructions will not be removed. There are no threshold siting surface object penetrations for Runway 10, but there are 40-foot trees that penetrate the threshold siting surface for Runway 28.
The obstructions will be removed as part of a future project.

TABLE 1
Red Devil Airport Design Standards – Runway 10/28

Item	Existing	Standard (B-II)	Proposed (B-II)
Runway Length	4,800'	4,500'	4,500'
Runway Width	75'	75'	75'
Runway Safety Area Length	5,200'	5,100'	5,100'
Runway Safety Area Width	180'	150'	150'
Taxiway Width	50'	35'	50'
Taxiway Safety Area Width	80'	79'	79'
RPZ Length	1,000'	1,000'	1,000'
RPZ Inner Width	500'	500'	500'
RPZ Outer Width	700'	700'	700'
Runway Centerline to Apron	200'	250'	300'
Approach Slope	20:1	20:1	20:1

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AIRPORT LAYOUT PLAN CONDITIONAL APPROVAL
SUBJECT TO ALP APPROVAL LETTER DATED 5/3/04
By: [signature] DATE: 5/3/04
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-601

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BY	DATE	REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION

APPROVED: [signature]
STEPHEN M. RYAN, P.E. DESIGN SECTION CHIEF

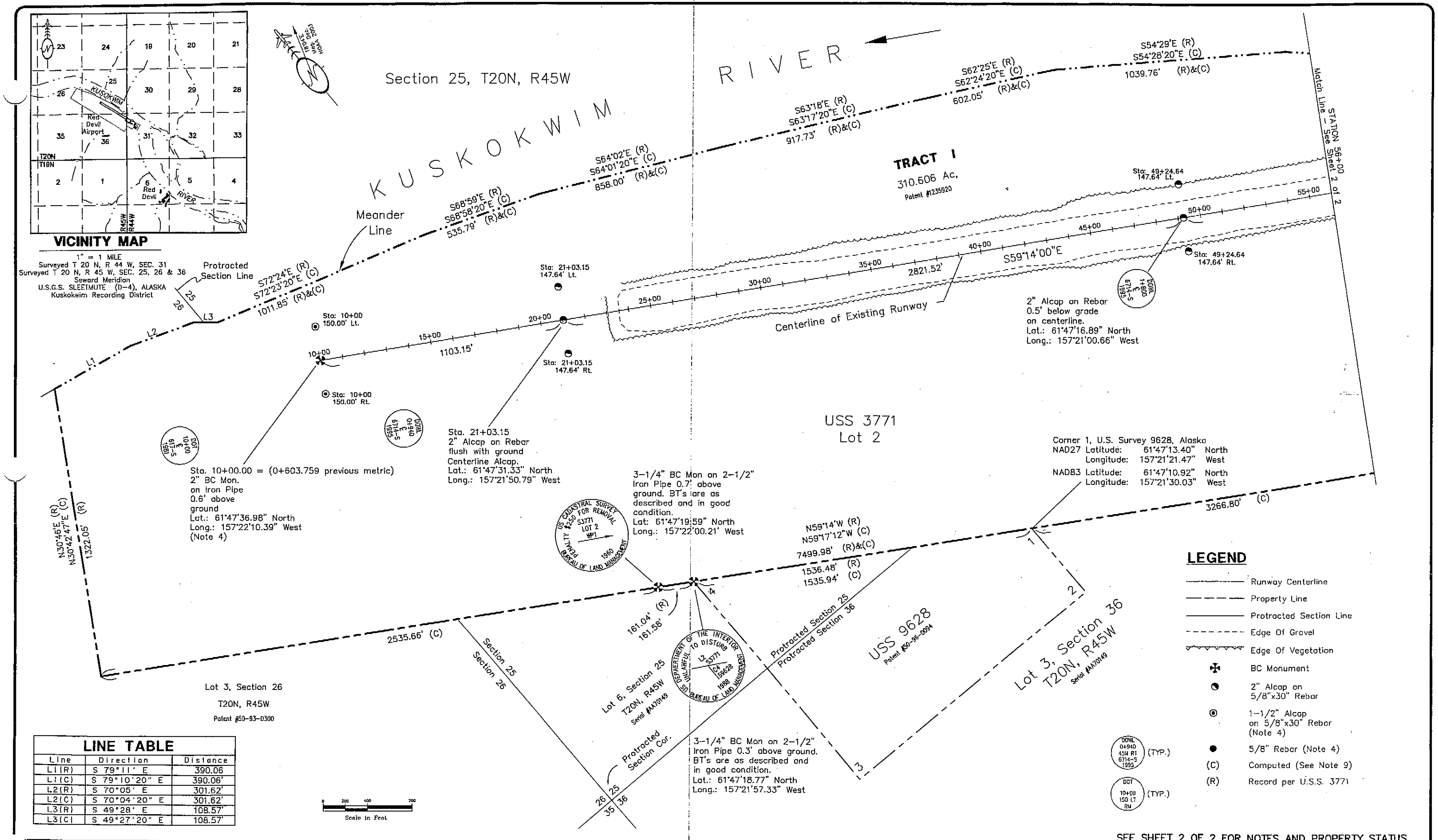
APPROVED: [signature]
HARVEY M. DOUTHIT, P.E. PROJECT MANAGER

DATE 10/15/03
DESIGN JMR
DRAWN MGT
CHECKED TJS

RED DEVIL AIRPORT
RED DEVIL, ALASKA

AIRPORT LAYOUT PLAN
NARRATIVE REPORT

SHEET 8 OF 8


VICINITY MAP
1" = 1 MILE
Surveyed T 20 N, R 44 W, SEC. 31
Surveyed T 20 N, R 45 W, SEC. 25, 26 & 36
Seward Meridian
U.S.G.S. SLEETMUTE (D-4), ALASKA
Kuskokwim Recording District
KUSOKWIM
Red Devil Airport
Red Devil
RIVER
T20N
T19N
R45W
R44W
18°04'E Mag. Dec. NOAA 2003
Section 25, T20N, R45W
KUSKOKWIM RIVER
Meander Line
Protracted Section Line
S72°24'E (R)
S72°23'20"E (C)
1011.85' (R)&(C)
S68°59'E (R)
S68°58'20"E (C)
535.79' (R)&(C)
S64°02'E (R)
S64°01'20"E (C)
858.00' (R)&(C)
S63°18'E (R)
S63°17'20"E (C)
917.73' (R)&(C)
S62°25'E (R)
S62°24'20"E (C)
602.05' (R)&(C)
S54°29'E (R)
S54°28'20"E (C)
1039.76' (R)&(C)
Match Line – See Sheet 2 of 2
STATION 56+00
TRACT I
310.606 Ac,
Patent #1235920
Sta: 10+00
150.00' Lt.
Sta: 10+00
150.00' Rt.
1103.15'
Sta: 21+03.15
147.64' Lt.
Sta: 21+03.15
147.64' Rt.
2821.52'
S59°14'00"E
Centerline of Existing Runway
Sta: 49+24.64
147.64' Lt.
Sta: 49+24.64
147.64' Rt.
2" Alcap on Rebar
0.5' below grade
on centerline.
Lat.: 61°47'16.89" North
Long.: 157°21'00.66" West
Sta. 10+00.00 = (0+603.759 previous metric)
2" BC Mon.
on Iron Pipe
0.6' above
ground
Lat.: 61°47'36.98" North
Long.: 157°22'10.39" West
(Note 4)
Sta. 21+03.15
2" Alcap on Rebar
flush with ground
Centerline Alcap.
Lat.: 61°47'31.33" North
Long.: 157°21'50.79" West
USS 3771
Lot 2
Corner 1, U.S. Survey 9628, Alaska
NAD27 Latitude: 61°47'13.40" North
Longitude: 157°21'21.47" West
NAD83 Latitude: 61°47'10.92" North
Longitude: 157°21'30.03" West
3266.80' (C)
N30°46'E (R)
N30°42'47"E (C)
1322.05' (R)
3-1/4" BC Mon on 2-1/2"
Iron Pipe 0.7' above
ground. BT's are as
described and in good
condition.
Lat: 61°47'19.59" North
Long.: 157°22'00.21' West
N59°14'W (R)
N59°17'12"W (C)
7499.98' (R)&(C)
1536.48' (R)
1535.94' (C)
161.04' (R)
161.58'
2535.66' (C)
Section 25
Section 26
Lot 3, Section 26
T20N, R45W
Patent #50-93-0300
Lot 6, Section 25
T20N, R45W
Serial #AA70149
Protracted Section 25
Protracted Section 36
USS 9628
Patent #50-96-0094
Lot 3, Section 36
T20N, R45W
Serial #AA70149
Protracted Section Cor.
3-1/4" BC Mon on 2-1/2"
Iron Pipe 0.3' above ground.
BT's are as described and
in good condition.
Lat.: 61°47'18.77" North
Long.: 157°21'57.33" West
Scale in Feet

LINE TABLE

Line	Direction	Distance
L1(R)	S 79°11' E	390.06
L1(C)	S 79°10'20" E	390.06'
L2(R)	S 70°05' E	301.62'
L2(C)	S 70°04'20" E	301.62'
L3(R)	S 49°28' E	108.57'
L3(C)	S 49°27'20" E	108.57'

LEGEND

- Runway Centerline
- Property Line
- Protracted Section Line
- Edge Of Gravel
- Edge Of Vegetation
- BC Monument
- 2" Alcap on 5/8"x30" Rebar
- 1-1/2" Alcap on 5/8"x30" Rebar (Note 4)
- 5/8" Rebar (Note 4)
- (C) Computed (See Note 9)
- (R) Record per U.S.S. 3771
- DOWL 0+940 45M RT 6714-S 1995 (TYP.)
- DOT 10+00 150 LT RM (TYP.)

SEE SHEET 2 OF 2 FOR NOTES AND PROPERTY STATUS

Drawing File: .
G:\data\RedDevil\row\sop-red_rev
Date:
converted to feet 9/23/03, plh
Plot View & Scale:
1/23/02 1=1 v-1

AIRPORT LAYOUT PLAN APPROVED
By: [signature]
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-601
DATE: 5/3/04

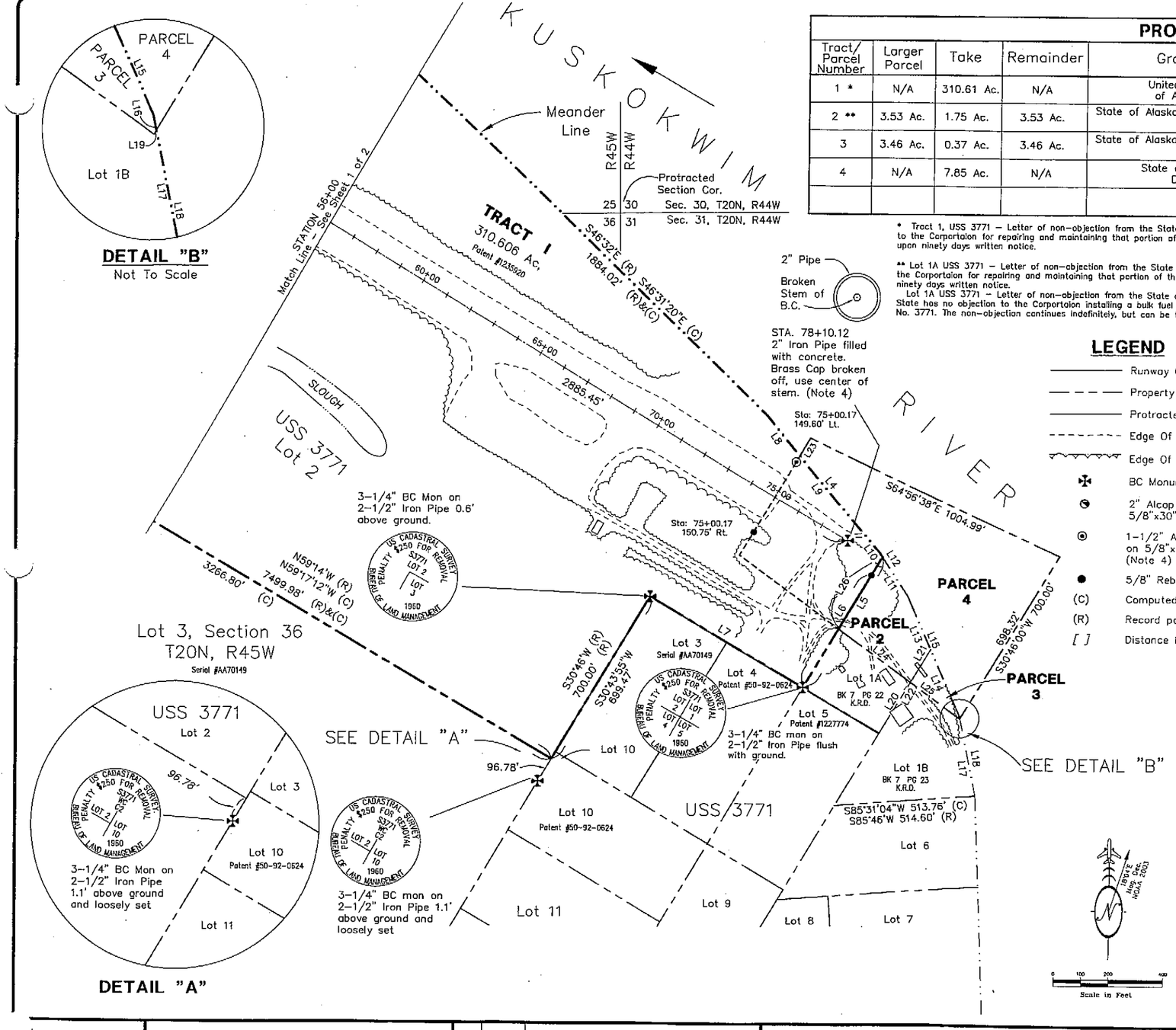
BY	DATE	REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION–DESIGN AND CONSTRUCTION–AVIATION
APPROVED: [signature]
STEPHEN M. RYAN, P.E. — DESIGN SECTION CHIEF
APPROVED: [signature]
HARVEY M. DOUTHIT, P.E. — PROJECT MANAGER

Date Drawn: 10/06/03
Designer: ______
Drawn by: VJS/PLH
Checked by: SEP/MES

RED DEVIL AIRPORT
AIRPORT LAYOUT PLAN
PROPERTY PLAN

SHEET 1 OF 2



PROPERTY STATUS

Tract/ Parcel Number	Larger Parcel	Take	Remainder	Grantor	Grantee / DOT&PF Interest	Date Acquired Book / Page	Acquired Under A.I.P. No.
1 *	N/A	310.61 Ac.	N/A	United States of America	State of Alaska / Fee – Patent #1235920	4/25/64 1 / 296	
2 **	3.53 Ac.	1.75 Ac.	3.53 Ac.	State of Alaska / Div. of Bldgs	State of Alaska / Div. of Bldgs Avigation & Hazard Esmt.	To Be Acquired	
3	3.46 Ac.	0.37 Ac.	3.46 Ac.	State of Alaska / Div. of Bldgs	State of Alaska / Div. of Bldgs Avigation & Hazard Esmt.	To Be Acquired	
4	N/A	7.85 Ac.	N/A	State of Alaska DNR	State of Alaska / ILMA–Avigation & Hazard Esmt.	To Be Acquired	

* Tract 1, USS 3771 – Letter of non-objection from the State of Alaska DOT&PF dated March 15,1985 to the Red Devil Corp. (Corporation). This non-objection is to the Corportaion for repairing and maintaining that portion of the existing road within Tract 1. The non-objection continues indefinitely, but can be terminated upon ninety days written notice.

** Lot 1A USS 3771 – Letter of non-objection from the State of Alaska DOT&PF dated April 15,1985 to the Red Devil Corp. (Corporation). This non-objection is to the Corportaion for repairing and maintaining that portion of the existing road within Lot 1A. The non-objection continues indefinitely, but can be terminated upon ninety days written notice.

Lot 1A USS 3771 – Letter of non-objection from the State of Alaska DOT&PF dated May 2, 1985 to the Red Devil Corp. This non-objection states that the State has no objection to the Corportaion installing a bulk fuel storage facility and fuel line maintaining that portion of the existing road within Lot 1A of US Survey No. 3771. The non-objection continues indefinitely, but can be terminated upon ninety days written notice.

LINE TABLE

Found / Computed			Record (BLM)		
Line	Direction	Distance	Line	Direction	Distance
L4(C)	S 39°47'12" E	644.75'	L4(R)	S 39°44' E	644.75'
L5(C)	S 30°39'01" W	561.56'	L5(R)	S 30°46' W	563.90'
L6	S 30°39'01" W	482.57'			
L7	N 59°24'19" W	650.84'	L7(R)	N 59°14' W	649.97'
L8	N 39°47'12" W	182.29'			
L9	N 39°47'12" W	462.47'			
L10	N 32°56'12" W	15.41'	L10	N 32°53' W	14.26'
L11	N 32°56'12" W	172.03'	L11	N 32°53' W	173.18'
L12	N 32°56'12" W	187.44'	L12	N 32°53' W	187.44'
L13	N 23°32'12" W	212.08'			
L14	N 23°32'12" W	270.58'			
L15	N 23°32'12" W	482.66'	L15	N 23°29' W	482.66'
L16	N 11°29'12" W	5.80'			
L17	N 11°29'12" W	290.61'			
L18	N 11°29'12" W	296.41'	L18	N 11°26' W	296.41'
L19	N 30°46'00"E	1.68'			
L20	N 30°49'12" E	219.15'			
L21	N 30°49'12" E	141.48'			
L22	N 30°49'12" E	360.63'	L22	N 30°46'E	365.24'
L23	N 30°46'00" E	75.39'			
L24	N 53°31'22" W	327.34'			
L25	N 53°31'25" W	224.87'			
L26	S 30°39'01" W	308.87'			

Note: all meanders are computed. See note 9 below.

NOTES

1. Information hereon is based on an actual field survey conducted during September 1995 by DOWL Engineers.
2. Geodetic positions are based on the position for Corner 1, U.S. Survey 9628 as shown hereon.
3. Bearings are based on the centerline of the runway monumented as Shown on ADOT&PF survey control drawing for Red Devil Airport dated September, 1981. All other bearings are plane and are oriented to the basis of bearings.
4. Monuments referencing this note appear on ADOT&PF survey control drawing for Red Devil Airport dated September, 1981.
5. All monuments shown hereon were found or set in September, 1995.
6. Distances are horizontal ground (US Survey) foot units.
7. The minimum closure of all traverses, meets or exceeds 1:10,000.
8. Geodetic positions are NAD83 unless otherwise specified.
9. All dimensions shown as found / computed were computed unless there are survey monumets shown on line with the dimension.
10. This drawing was rescaled to English Units from the original metric drawing prepared by DOWL, DWG. No.: 143-62C

Drawing File: G:\data\RedDevil\row\sop-red_rev
Date: converted to feet 9/23/03, plh
Plot View & Scale: 1/23/02 1=1 y=1

AIRPORT LAYOUT PLAN APPROVED
By: _____
FAA, AIRPORTS DIVISION
ALASKAN REGION, AAL-601
DATE: 5/2/04

BY	DATE	REVISIONS

STATE OF ALASKA
DEPARTMENT OF TRANSPORTATION AND PUBLIC FACILITIES
CENTRAL REGION–DESIGN AND CONSTRUCTION–AVIATION
APPROVED: _____ STEPHEN M. RYAN, P.E. DESIGN SECTION CHIEF
APPROVED: _____ HARVEY M. GOUTHIT, P.E. PROJECT MANAGER

Date Drawn: 10/06/03
Designer: _____
Drawn by: WJS/PLH
Checked by: SEP/MES

RED DEVIL AIRPORT

AIRPORT LAYOUT PLAN

PROPERTY PLAN

SHEET 2 OF 2